WYMAN ELEMENTARY SCHOOL
DESIGN DEVELOPMENT DOCUMENTS FOR
PLAYGROUND RENOVATION
MAY, 2004

CLIENT
Denver Public Schools
800 Grant Street
Denver, CO 80203-2998

PREPARED BY
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Denver, Co 80202
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As part of LA
4401/9/91 Studio

SHEET DESCRIPTION
L1 Cover Sheet/Survey
L2 Demolition Plan
L3 Landscape Plan
L4 Horizontal Surface Plan
L5 Planting Plan
L6 Planting Details
L7 Detailed Elements
L8 Specifications
L9 Educational Elements
L10 Detail Elements
MEMORIAL GARDEN PLANT SCHEDULE

<table>
<thead>
<tr>
<th>Abbr.</th>
<th>Latin Name</th>
<th>Common Name</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shrubs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jc</td>
<td>Juniperus Communis</td>
<td>Juniper, Alpine Carpet</td>
<td>5 GAL</td>
</tr>
<tr>
<td>Sv</td>
<td>Syringa vulgaris</td>
<td>Lilac, Common Purple</td>
<td>5 GAL</td>
</tr>
<tr>
<td>Ca</td>
<td>Cornus obliqua</td>
<td>Dogwood, pagoda</td>
<td>5 GAL</td>
</tr>
<tr>
<td>Cs</td>
<td>Cornus stolonifera</td>
<td>Dogwood, redthry</td>
<td>5 GAL</td>
</tr>
<tr>
<td>Ea</td>
<td>Euonymus alatus</td>
<td>Burning Bush</td>
<td>4’ clump</td>
</tr>
<tr>
<td>Perennials</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Po</td>
<td>Papaver orientale</td>
<td>Oriental Poppy</td>
<td>1 GAL</td>
</tr>
<tr>
<td>Rf</td>
<td>Rudbeckia fulgida</td>
<td>Black-Eyed Susan</td>
<td>4’ pots</td>
</tr>
<tr>
<td>Leu</td>
<td>Leucanthemum, superbum</td>
<td>Shasta Daisy</td>
<td>1 GAL</td>
</tr>
<tr>
<td>Cc</td>
<td>Campanula medium</td>
<td>Blue Mist Spirea</td>
<td>5 GAL</td>
</tr>
<tr>
<td>Epn</td>
<td>Echinacea purpurea, Magnus</td>
<td>Rose Coretflower</td>
<td>1 GAL</td>
</tr>
<tr>
<td>Rc</td>
<td>Rabbida columnifera</td>
<td>Coretflower</td>
<td>4’ pots</td>
</tr>
<tr>
<td>Sn</td>
<td>Solianum nemerosa</td>
<td>Solianum</td>
<td>4’ pots</td>
</tr>
<tr>
<td>Vc</td>
<td>Viola cornuta</td>
<td>Pansy</td>
<td>4’ pots</td>
</tr>
<tr>
<td>Lrh</td>
<td>Lupinus Russell Hybrid</td>
<td>Lupine</td>
<td>1 GAL</td>
</tr>
</tbody>
</table>

3 Community Garden Detail

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<td>Oriental Poppy</td>
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</tr>
</tbody>
</table>
1 Shade Structure Detail
Not to scale

2 Shade Structure Detail
Not to scale

3 Shade Structure Detail
Not to scale

4 Outdoor classroom Detail
1/8" = 1'

5 Shade Structure Plaza Detail
1/4" = 1'
Steel Specifications

The Steel Structure is designed to meet or exceed the requirements of the 1997 Uniform Building Code. The Steel Structure is covered by a 20-year warranty against failure of the structure, a 3-year paint warranty, and fabric is covered by a full 6-year warranty against significant fading, tearing, ripping and/or degradation (and is covered by a 3-year fade warranty).

**Standard Structures**

- **Color:** R8 8012
- **Coverage:** 100%
- **Wind:** 120 mph
- **Snow Load:** 45 psf

**Foundation**

- **Foundations:** The foundations are designed depending on specific soil conditions.

**Concrete**

- **Concrete work is in strict accordance with the latest American Concrete Institute Building Code (ACI 318-05).**

**Concrete Specifications**

- **Concrete Mix:** 2500 psi

**Concrete Mix**

- **On existing concrete slab:**
  - Mixture: Steel/Steel/Steel/50 in a minimum of 3 1/2" embedment. Epoxy anchor system used in accordance with 310.6.6.
- **Steel Reinforcement Details:**
  - Reinforcement detail: Steel in-place concrete slab.
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**Steel**

- **All reinforcement conforms to 50,000 psi ASTM A-42 Grade 50 (exclusive Super Span and Terrier Cabin Structures).**
- **All reinforcement steel, if required, is designed, detailed, fabricated and placed in accordance with the latest ACI Detailing Manual and CSI Manual of Standard Practice.**

**Steel Fabrication**

- **All steel tubing is triple coated for paint protection using the leads-free zinc electroplating, Mill Test Form process. Tubing is internally coated with zinc and organic coatings to prevent corrosion.**
- **All steel slip joints are made/slip tested by zinc electroplating. All metal tubing and plates are finished with a minimum of 3.5 to 3.5 mL thick UV-inhibited weather resistant powder coat.**
- **Altering size of structure or determined loads requires tolerance for structural steel members in steel gages greater than 7 gage thickness. Custom steel may be substituted. Cutting and coating of custom steel conforms to the following:**
  - A de-greasing agent is applied to remove surface oil and grease.
  - An anti-spray paint is applied to allow proper spray coating, where wall thickness requires pre-treatment.
  - **Steel members are to be pre-finished prior to final application to minimize adhesion.**
  - All custom structural Steel shall be ASTM A-36, except steel pipe columns, which shall be ASTM A-500, grade B, unless otherwise noted.
  - **If fittings are manufactured using drawn one-end round steel with a minimum yield strength of 70 ksi and a minimum tensile strength of 80 ksi.**
  - **Steel tubing is deformed only to have a minimum 1/16" tolerance, and as less than 1" working all internal coatings are worked at one side.**
  - **Structural steel is detail fabricated, and erected in accordance with AISC specifications.**
  - **All structural steel plates and bars shall be manufactured using ASTM A-36, grade B, unless otherwise noted.**
  - **Field connections are separately indicated in the detail drawings.**
  - **All welds are performed using 7018 electrodes or pre-filled semi-automatic welding using 7016 wire. All welds are a minimum 3/16" unless otherwise noted. All steel shall be weld free at transitions to prevent internal leaks.**

**Welding**

- **All hardware is to steel grade structural steel. All fasteners include doubler plates for weld-thru holes at all joints.**
- **Welds are a minimum 3/16" nominal diameter, 7 welds per square inch (minimum).**
- **All welds are made to steel grade structural steel with a minimum weld size of 8000 pounds.**
- **All sections bolts are ASTM A-307 grade B, are torched to retain corrosion resistance or stainless steel.**

**Cloth Specifications**

**Thread**

- **Thread: PTFE (TEFLOM) Specifications**
- **All thread used meets the following specifications —**
  - **High Strength**
  - **Low Shrinkage**
  - **Wide Temperature Range**
  - **Flex and Abrasion Resistant and UV Radiation Immunity**
  - **Thread is guaranteed to meet or exceed the fabric's lifetime.**
  - **It is unaffected by cleaning agents, acid rain, mold, rot, chlorine, saltwater, and industrial pollutants.**
  - **Lockstitch Thread — 1202 Dexter**
  - **Chamis-ch Threading — 2400 Denier**

**Sewing Specifications**

- **All cloth is sewn to steel structure.**
- **Grommets include doubler plates for weld-thru holes at all joints.**
- **Welds are a minimum 3/16" nominal diameter, 7 welds per square inch (minimum).**
- **All welds are made to steel grade structural steel with a minimum weld size of 8000 pounds.**
- **All sections bolts are ASTM A-307 grade B, are torched to retain corrosion resistance or stainless steel.**

**Fabric Specifications**

**Raw Material**

- **High Density Polyethylene with Ultra Violet additives.**
- **Construction A monofilament and tape construction giving a stable material.**
- **Riveted to ensure material will not unravel if cut.**

**SOLID COLORS STRIPE COLORS**

- **Finish Fabric is untreated. Fabric is stitched.**
- **Thread Strength Warp 220-8622 lb.**
- **Thread 462.457 lb.**
- **Thread 162.8437 lb.**
- **Thread 401.2413 lb.**
- **Thread Strength 37.078 lbs. 33.066 lbs.**
- **Thread Weight 6.694 gpm. 7.054 gpm.**
- **Thread Weight 9.4525 gpm. 9.4525 gpm.**
- **Roll Weight 164.04 ft. 164.04 ft.**
- **Roll Weight 4/5 66 lbs. 4/5 68.38 lb.**
- **Life Expectancy A minimum of 8 years continuous exposure to the sun.**
- **Minimum Temperature 22 F.**
- **Maximum Temperature 176 F.**
- **Life Expectancy 8 years continuous exposure to the sun.**

**Source:**

www.surports.com/Technical/
Four Square with multiple numeric systems
(1, 2, 3, 4)(I, II, III, IV)
(1/4, 1/2, 3/4, 4/4)
1/4, 3/4, 7/4, 1/4)
-Demonstrating meanings for whole numbers and commonly
used fractions...
-using numbers to count, measure, label...

Kinetic pieces
-moving shapes (square, circle, triangle), with a negative
shape of 1/3 its total area inscribed
-recognizing geometry in their world
-recognizing that energy (light, heat, medium, sound,
memorial) can affect common objects and is involved in
common objects.
See sheet L10, detail 4

Game Tables (moving puzzles)
-recognizing when a pattern exists and using that
information to solve a problem.
-demonstrating understanding of and proficiency with basic
addition, subtraction... without use of a calculator.
See sheet L10, detail 3

Animal Tracks/Elephant Bellows
-selecting and using appropriate standard and nonstandard
units of measurement in problem solving situations.
-using the concepts of smallest, largest and middle.
See sheet L10, detail 1

Ordered Measure Walk
-applying the concept of ratio, proportion...
-understanding different units of measurement and how
that relates to their own space/place
See sheet L10, detail 1

North Arrow
-understanding direction in their world, relating it to the rest
of the playground
-understanding their location and relating it to a larger
scale........Colorado, United States, World.
The game table has moveable pieces. This will allow children to move the pieces and create and understand basic mathematical patterns.

This measure walk is designed to measure one's foot and pace to the next color strip. The strip is marked every 5 feet with meter, inch and foot dimensions. Depending on one's foot size the number of paces will vary in between color strips. Elephant foot bollards and cat prints are also evident in order to give a sense of scale to one's own foot.

The elephant foot bollards can be used for a place to sit, but are also designed for understanding the concepts of smallest, largest and middle in terms of a scaler's standpoint.

The kinetic pieces are classic geometric shapes; square, circle, and triangle, with a negative shape in the middle, exactly 1/3 of the total size of the shape. These pieces move in the wind and cast shadows on the building. The shadow will differ depending on the angle of the shape and the time of day.